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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,195	11/27/2000	Lalit K. Aggarwal	1005-AGGUS3	7762

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EXAMINER

PUNNOOSE, ROY M

ART UNIT PAPER NUMBER

2877

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/701,195

Examiner

Roy M. Punnoose

Applicant(s)

AGGARWAL, LALIT K.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show 35a-d as described in the specification (see page 13, lines 4 and 11 of specification). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 42-46 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valente et al. (US 5,615,005) in view of Bowley et al. (US 4,900,147).

4. Claim 42 is rejected because:

A. Valente et al. (Valente hereinafter) discloses a system comprising a electronic camera means 31 for viewing a gemstone and for generating electronic signals corresponding to a physical characteristic of the gemstone (see col.5, lines 30-31), electronic data processor means 34, 41, operatively connected to said electronic camera 31 (see col.9, lines 27-28) for receiving the electronic signals, for controlling the operation of said electronic camera 31 (see col. 10, line 2) to generate electronic signals corresponding to at least two

different physical characteristics of the gemstone (see col.10, lines 12-20), data storage means 42, 43, 44, operatively connected to said electronic data processor means 34, 41, (see col. 9, lines 40-54) for storing a database of gemstone identifying information, for generating, maintaining and retrieving characterizing information about gemstones.

However, Valente does not disclose a means for comparing the identifying information of the viewed gemstone provided by said electronic data processor 34, 41, with the identifying information of a known gemstone retrieved from said data storage device 42, 43, 44, so that the gemstone viewed by the electronic camera means 31 can be accurately identified from said database of gemstone identifying information.

- B. Bowley et al. (Bowley hereinafter) discloses a system in which a plurality of intensity measurements of scattering of electromagnetic radiation by a diamond is compared with the identifying information of a known gemstone retrieved from a data storage device (see abstract; col.2, lines 48-50), so that the gemstone viewed by an electronic camera means 10 can be accurately identified from said database of gemstone identifying information (see col.2, lines 19-23).
- C. In view of Bowley's teachings, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Bowley's teaching of comparing the physical characteristic of a viewed gemstone with the identifying information of a known gemstone retrieved from a data storage device, into Valente's system of evaluating gemstones, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have

constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

5. Claim 43 is rejected for the same reasons of rejections of claim 42 above, and additionally because, Valente discloses a means 22 for illuminating the gemstone wherein the electronic data processor means 34, 41, comprises light control means 33 for controlling illumination of the gemstone by said illuminating means 22.

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate means for illuminating the gemstone, wherein the electronic data processor means comprises light control means for controlling illumination of the gemstone by said illuminating means, into the system of paragraph 4C above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

6. Claim 44 is rejected for the same reasons of rejection of claim 43 above, and additionally because, Bowley teaches that the system comprises means for displacing/orienting the gemstone/diamond relative to a electronic camera means and wherein the electronic data processor means comprises means for controlling said electronic camera and said displacing means for capturing a profile image of the gemstone/diamond viewed by said electronic camera means 10 (see col.2, line 67- col.3, line 12), and Valente discloses measuring and capturing color characteristics of the gemstone/ diamond.

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate means for displacing/orienting the gemstone/diamond relative to a electronic camera means and wherein the electronic data processor means comprises means for controlling said electronic camera and said displacing means for capturing a profile image of the gemstone/diamond viewed by said electronic camera means, into the system of paragraph 5 above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

Note: It would have been obvious to one of ordinary skills in the art at the time the invention was made to recognize that an electronic camera disclosed by Bowley is capable of obtaining color images of an object and therefore could obtain a color image if that was desired as claimed in claim 44.

7. Claim 45 is rejected for the same reasons of rejection of claim 44 above, and additionally because, Bowley discloses means for capturing multiple profile of the gemstone by an electronic camera means 10 (see col.3, lines 20-22).

Therefore, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate means for capturing multiple profile of the gemstone by a electronic camera means, into the system of paragraph 6 above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

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Note: Bowley teaches of images at different orientations of the gemstone for identification purposes (col.3, lines 20-22).

8. Claim 46 is rejected for the same reasons of rejection of claim 43 above, and additionally because, Vaente discloses that measuring of fluorescence of gemstone is desired (see col.3, lines 55-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a means for capturing a fluorescence image of a gemstone with electronic camera means, into the system of paragraph 5 above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

9. Claim 50 is rejected for the same reasons of rejection of claim 43 above, and additionally because, Bowley discloses means for capturing a laser scatter image of the gemstone with an electronic camera means (see col. 4, lines 31-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a means for capturing a laser scatter image of the gemstone with an electronic camera means, into the system of paragraph 5 above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

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10. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valente et al. (US 5,615,005) in view of Bowley et al. (US 4,900,147) as applied to claims 42-43 above, and further in view of Shannon, Sr. (US 5,966,673).

Claim 47 is rejected because:

- A. Valente and Bowley teach all the claim limitations as disclosed above, except for the teaching of capturing brilliance and scintillation image of the gemstone with an electronic camera means.
- B. Shannon Sr. (Shannon hereinafter) discloses measuring/capturing scintillation of a gemstone (see col.10, lines 27-30) with a camera means.
- C. In view of Shannon's teachings, it would have been obvious to one of ordinary skills in the art at the time the invention was made to incorporate Shannon's teaching of measuring/capturing scintillation of a gemstone, into Valente's and Bowley's system, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

11. Claims 48-49 and 51-53 are rejected for the same reasons of rejection of claim 50 above. Bowley discloses means for capturing a laser scatter image of the gemstone with an electronic camera means (see col. 4, lines 31-32).

In view of Bowley's teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate various other means for capturing images such as

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means for capturing image of (a) a girdle image, (b) a table and luster image, (c) a culet image, (d) a table facet image, (e) a surface feature image, etc., of a gemstone with an electronic camera means, into the system of paragraph 10C above, due to the fact that such a combined system would provide an automated gemstone grading and data management system for use in appraising the value of a gemstone and to uniquely identify it. Accordingly, such incorporation would have constituted an alternative means/obvious engineering expedience for one of ordinary skill in the art at the time the invention was made.

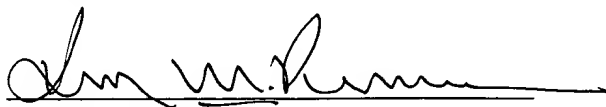
Conclusion.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Examiner Roy M. Punnoose** whose telephone number is **703-306-9145**. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the applicant can reach his **Supervisory Patent Examiner, Frank G. Font**, at (703) 308-4881.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a **general nature** or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-0530.



Roy M. Punnoose
Patent Examiner
Art Unit 2877
June 29, 2003